REMARKS

APPLICATION STATUS

No claims have been canceled or added as a result of this response. Accordingly, claims 1-29 are pending in the present application. No new matter has been introduced by way of the present amendment.

35 USC § 102 REJECTION

Claims 1, 2, 7-9, 13-15, and 19 are allowable over US 2,597,554

The rejection of claims 1, 2, 7-9, 13-15, and 19 under 35 USC § 102(b), as being anticipated by U.S. Patent No. 2,597,554 to West (hereinafter referred to as "the West patent") is respectfully traversed for the reasons set forth hereinafter.

Independent claims 1, 15 and 19 require that each gravel pack section be adapted to produce fluid therethrough. The West patent, however, teaches that the filter cake 32, 33 disposed on the gravel layers 31 prevents the flow of fluid therethrough.[1] Thus, the West patent discloses some gravel pack sections (*i.e.*, the gravel layer 31 with the filter cake 32, 33 disposed thereon) that are not adapted to produce fluid therethrough. Rather, they are adapted to inhibit the production of fluid therethrough. Each of claims 1, 15, and 19 is anticipated by the West patent, "[o]nly if each and every element as set forth in the claim is found, either expressly or inherently described" in a single prior art reference."[2] Further, "[t]he identical invention must be shown in as complete detail as is contained in the...claim."[3] The West patent, however, falls

[1] *See* column 7, lines 60-65, of the West patent.
[2] *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).
[3] *See Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

short of these standards. Accordingly, the West patent fails to anticipate the present invention, as set forth in claims 1, 15, and 19.

The Office is reminded that courts have approved the use of "adapted to" as providing structural limitations. "Rather than being a mere direction of activities to take place in the future, this language ["adapted to"] imparts a structural limitation...."[4] Thus, a recitation of "adapted to" in the claims defines structural interrelationships between claimed elements, which must be considered and should not be ignored. Specific structural limitations are recited in each of claims 1, 15, and 19, and the "adapted to" clauses must be given patentable weight as required by case law.

Further, the West patent teaches away from modifying the configuration of its gravel pack such that each of the gravel pack sections (*i.e.*, the gravel layers 31, 27) are adapted to produce fluid therethrough, as required by each of claims 1, 15, and 19. If the West patent were to be so modified, the gravel pack would become ineffective in its intended purpose, to inhibit gas or water from being produced from the well. Thus, the West patent cannot render the present invention, as set forth in claims 1, 15, or 19, obvious.

Independent claim 13 requires a gravel pack creating a varying substantially radial flow restriction along its length. As discussed above, the West patent teaches that the gravel layers 31 prevent the flow of fluid therethrough. The gravel layers 27 allow the flow of fluid therethrough; however, the West patent fails to disclose that these layers have varied radial flow restrictions. Thus, the gravel pack of the West patent has generally the same radial flow restriction along its length. Accordingly, the West patent cannot anticipate the present invention, as set forth in claim 13. Further, the West patent provides no motivation for one of ordinary skill in the art to

[4] *See In re Venezia*, 189 USPQ 149, 151-152 (CCPA 1976).

modify the gravel pack thereof to create a varying substantially radial flow restriction along its length. Accordingly, the West patent cannot anticipate the present invention, as set forth in claim 13.

Claims 2 and 7-9 depend from claim 1. Claim 14 depends from claim 13. Accordingly, the remarks provided above concerning claims 1 and 13 apply equally to claims 2, 7-9, and 14.

Therefore, it is respectfully requested that the rejection of claims 1, 2, 7-9, 13-15, and 19 under 35 USC § 102(b), as being anticipated by the West patent, be reconsidered and withdrawn.

Claims 10 and 11 are allowable over USPAP 2002/0157837

The rejection of claims 10 and 11 under 35 USC § 102(b), as being anticipated by U.S. Patent Application Publication No. 2002/0157837 to Bode (hereinafter referred to as "the Bode application") is respectfully traversed for the reasons set forth hereinafter.

Applicant respectfully submits that the Bode application is not available as a prior art reference under 35 USC § 102(b), as alleged by the Office. 35 USC § 102(b) recites that a person shall be entitled to a patent unless:

> *the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States....*

The Bode application was published on October 31, 2002; however, the present application was filed on October 9, 2001. Thus, the Bode application was published more than one year after the present application was filed and is, therefore, not available as a prior art reference under 35 USC § 102(b). The Bode application, however, is available as a prior art reference under 35 USC § 102(e), in that the filing date of the Bode application (*i.e.*, April 25, 2001) predates the filing date of the present application. Correction is respectfully requested.

The Bode application, however, fails to anticipate the present invention set forth in claims 10 and 11. Claim 10 recites, in part, a production tubular comprising screen sections, wherein each screen section comprises a flow restriction element capable of imposing a known restriction on the communication of fluid flow, thereby regulating the pressure profile along the production tubular length. However, the Bode application discloses:

> *The flow control apparatus includes a tubular member 72 having apertures 74 formed therein for flow of fluid therethrough between the outside of the tubular member 72 and the inside or the inner diameter of the tubular member 72. The apertures 74 may be any shape, such as in the shape of a slot or a round hole. A slidable sleeve 76 is disposed radially outward of the tubular member 72 and is selectively movable to cover or to uncover the apertures 74 of the tubular member 72. Alternatively, the slidable sleeve 76 may itself have apertures which align or misalign with the apertures 74 of the tubular member 72 to control flow of fluids therethrough. A screen 78 may be disposed radially outward of the sleeve 76 to block the flow of unwanted material into the apertures 74 of the tubular member 72.*[5] [Emphasis added]

Thus, it is not the screen 78 that is used to control the flow. Rather, the tubular member 72 and the slidable sleeve 76 are used to control the flow and they are not part of the screen. Thus, the Bode application fails to disclose or suggest that each screen section comprises a flow restriction element capable of imposing a known restriction on the communication of fluid flow, as required by claim 10. Accordingly, the present invention, as set forth in claim 10, is allowable over the Bode application.

Claim 11 depends from claim 10. Accordingly, the remarks provided above concerning claim 10 apply equally to claim 11.

Claim 26 is allowable over US 5,934,376

The rejection of claim 26 under 35 USC § 102(b), as being anticipated by U.S. Patent No. 5,934,376 to Nguyen (hereinafter referred to as "the Nguyen patent") is respectfully traversed for the reasons set forth hereinafter.

Claim 26 requires, among other things, "developing a simulation completion model for the well that provides a desired flow restriction per well length to provide substantially equal drainage rates within the well productive zone length." As used herein, the term "model" means "a system of postulates, data, and inferences presented as a mathematical description of an entity or state of affairs."[6] The Nguyen patent, however, merely discloses that a set of tests was performed of various configurations. The Nguyen patent does not, however, disclose or suggest developing a simulation completion model. Therefore, the present invention, as set forth in claim 26, is allowable over the Nguyen patent.

Therefore, it is respectfully requested that the rejection of claim 26 under 35 USC § 102(b), as being anticipated by the Nguyen patent, be reconsidered and withdrawn.

35 USC § 103 REJECTIONS

Claims 3-6, 16-18, and 20-25 are allowable over the West patent in view of the Bode application

The rejection of claims 3-6, 16-18, and 20-25 under 35 USC § 103(a), as being unpatentable over the West patent in view of the Bode application, is respectfully traversed for the reasons set forth hereinafter.

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[5] *See* paragraph [0042] and FIGS. 4 and 5 of the Bode application.
[6] *See* Merriam-Webster Online, <http://www.m-w.com/cgi-bin/dictionary?model>, visited November 17, 2003.

The acknowledgement on the record that the West patent fails to disclose a gravel pack section imposing a greater pressure drop at the heel of a horizontal wellbore and progressively less of a pressure drop at the toe end of the wellbore[7] is acknowledged with appreciation. The Office Action alleges, however, that the Bode application teaches a gravel pack completion method similar to that of the West patent. Rather, Applicant respectfully asserts that the two references teach very different completions. The West patent teaches a completion that preferentially inhibits gas or water from being retrieved from the formation, while the Bode application teaches a completion that is adjustable downhole to vary the amount of oil retrieved from the formation. The West patent teaches the use of filter cake-coated sections to inhibit gas or water from being retrieved, while the Bode application teaches the use of a sliding sleeve to vary oil production. Thus, the completions would not be considered similar to one of ordinary skill in the art.

Further, the Office Action alleges that the Bode application, in paragraph 0008 thereof, "teaches a horizontal wellbore where a well screen imposes a higher flow rate, *i.e.*, a higher pressure drop, at the heel of the wellbore than at the toe." Rather, the Bode application teaches an undesirable situation wherein there is a higher flow (and, thus, a lower pressure differential) at the heel than at the toe. Applicant respectfully asserts that merely stating the problem would not have led one skilled in the art to use the method disclosed by the West patent in a generally horizontal wellbore. Even if the method taught in the West patent were to be used in a generally horizontal wellbore, the desired effect (*i.e.*, less production at the heel) would not have been achieved. The West patent fails to disclose or suggest that production increases or decreases along the length of the wellbore, as discussed above concerning claim 13.

[7] *See* page 6, lines 27-29, of the present Office Action.

Yet further, one skilled in the art would have been discouraged from applying the gravel pack sections of the West patent to the apparatus of the Bode application, since the Bode application points out the shortcomings of flow control devices that are not adjustable,[8] as discussed above concerning claim 10. In fact, the Bode application teaches away from such fixed flow control devices. Accordingly, claim 3 is allowable over the West patent in view of the Bode application.

Regarding claim 4, the indication on the record that the West patent fails to disclose a plurality of flow restricting sections[9] is noted with appreciation. As discussed above concerning claim 10, the Bode application teaches that a screen 78 may be disposed radially outward of the sleeve 76. The sleeve 76 and the tubular member 72 control the flow of fluid and are not part of the screen. Thus, the Bode application fails to disclose or suggest a sand screen having a plurality of flow restricting sections, as required by claim 4.

Claims 5 and 6 depend from claim 4 and, thus, the remarks provided above concerning claim 4 apply equally to claims 5 and 6.

Claim 16 incorporates the limitations of claim 15 from which it depends. As discussed above concerning claim 15, the West patent fails to teach or suggest that each of the gravel pack sections are adapted to produce fluid therethrough. Further, the Bode application teaches away from a non-adjustable flow restriction device, such as gravel pack sections having different permeabilities, as discussed above concerning claim 10. Accordingly, the present invention, as set forth in claim 16, is not rendered obvious by the West patent in view of the Bode application.

Claims 17 and 18 depend from claim 16. Accordingly, the remarks provided above concerning claim 16 apply equally to claims 17 and 18.

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[8] *See* paragraph 0009 of the Bode application.

Claim 20 requires varying the density of a gravel pack longitudinally within a horizontal well. The West patent fails to disclose a generally horizontal well in any respect. While the Bode application concerns a horizontal well, it teaches away from a non-adjustable flow restriction device, such as gravel pack sections having different permeabilities. Accordingly, the present invention, as set forth in claim 20, is not rendered obvious by the West patent in view of the Bode application.

Claims 21 and 22 depend from claim 20 and the remarks provided above concerning claim 20 apply equally to claims 21 and 22.

Claim 23 requires placing a gravel pack within a wellbore, the gravel pack comprising a first gravel pack section and a second gravel pack section, each of the gravel pack sections being adapted to produce fluid therethrough and having different gravel densities. As discussed above, the West patent teaches that some of the gravel pack sections are not adapted to produce fluid therethrough. While the Bode application concerns a horizontal well, it teaches away from a non-adjustable flow restriction device, such as gravel pack sections having different densities. Accordingly, the present invention, as set forth in claim 23, is not rendered obvious by the West patent in view of the Bode application.

Claim 24 depends from claim 23 and, accordingly, the remarks provided above concerning claim 23 apply equally to claim 24.

Regarding claim 25, the Office Action fails to discuss why the cited references are combinable to produced the claimed invention. "When the incentive to combine the teachings of the references is not readily apparent, it is the duty of the examiner to explain why combination

[9] *See* page 6, lines 12-13, of the present Office Action.

of the reference teachings is proper."[10] Applicant respectfully asserts that the Office has not met this duty.

Nevertheless, claim 25 is allowable over the cited references. Claim 25 is directed to a method for restricting production drainage rates within a generally horizontal wellbore completion. As discussed above, the West patent fails to disclose a generally horizontal well. While the Bode application concerns a horizontal well, it teaches away from a non-adjustable flow restriction device, such as gravel pack sections having different densities. Accordingly, the present invention, as set forth in claim 25, is not rendered obvious by the West patent in view of the Bode application.

Accordingly, it is respectfully requested that the rejection of claims 3-6, 16-18, and 20-25 under 35 USC § 103(a), as being unpatentable over the West patent in view of the Bode application, be reconsidered and withdrawn.

Claim 12 is allowable over the Bode application in view of the West patent

The rejection of claim 12 under 35 USC § 103(a), as being unpatentable over the Bode application in view of the West patent, is respectfully traversed for the reasons set forth hereinafter.

While the Office Action alleges that it would have been obvious for one of ordinary skill in the art to combine the Bode and West patents to produce the claimed invention, the Bode patent teaches away from a non-adjustable flow restriction device, as discussed above concerning claim 10. There can be no motive to combine where the Bode patent teaches away from the claimed invention. Accordingly, claim 12 is allowable over the cited references.

[10] *See Ex parte Skinner*, 2 U.S.P.Q.2d (BNA) 1788, 1790 (Bd. Pat. App. & Int. 1987).

Therefore, it is respectfully requested that the rejection of claim 12 under 35 USC § 103(a), as being unpatentable over the Bode application in view of the West patent, be reconsidered and withdrawn.

Claims 27-29 are allowable over the Nguyen patent in view of the West patent

The rejection of claims 27-29 under 35 USC § 103(a), as being unpatentable over the Nguyen patent in view of the West patent, is respectfully traversed for the reasons set forth hereinafter.

Each of the rejected claims depend from claim 26, which requires, among other things, "developing a simulation completion model for the well that provides a desired flow restriction per well length to provide substantially equal drainage rates within the well productive zone length." As discussed above concerning claim 26, the Nguyen patent fails to disclose or suggest such a simulation model. Further, the West patent is silent with regard to such a model. As the cited references fail to disclose or suggest all of the claimed limitations, claims 27-29 are allowable over the cited references.

It is respectfully requested that the rejection of claims 27-29 under 35 USC § 103(a), as being unpatentable over the Nguyen patent in view of the West patent, be reconsidered and withdrawn.

CONCLUSION

Wherefore, in view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited. The Examiner is invited to contact Daren C. Davis at

(817) 578-8616 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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